

# **VA Web Best Practices Guide**

To be used in conjunction with  
VA Handbook 6102, Internet/Intranet Services

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## Preface

This document is a guide for Department of Veterans Affairs employees and contractors who work with technical or content aspects of preparing VA Internet and Intranet websites. Its purpose is to provide web developers an overview of best practice elements to be included on VA web pages, along with overall considerations for creating VA websites. The Interagency Committee on Government Information provides a related resource of federal web best practices.

[http://www.firstgov.gov/webcontent/shoulddo\\_bestpractices.shtml](http://www.firstgov.gov/webcontent/shoulddo_bestpractices.shtml)

The Best Practices guide is prepared as a reference to be used in conjunction with VA Directive and Handbook 6102, "Internet/Intranet Services." This document is separate from the 6102 policy so it may be revised more frequently as new government website regulations are enacted, or as their interpretation changes. This Best Practices guide is subject to VA Directive and Handbook 6102 and does not supersede that document.

Historical revisions are noted with accompanying dates in the Version Summary at the end of this document.

## Categories of Attributes Covered

1. **Technical.** Elements included in, and attributes of, the underlying code of the web page.
2. **Interface.** Attributes that pertain to the structure or behavior of the website, such as links.
3. **Branding.** Those items that identify the Department through look and feel.
4. **Usability.** Attributes that foster website ease of use for distinct VA audiences.
5. **Content.** Qualities of the content of the website aside from the interface.

## Technical Attributes

### Metadata

Metadata are descriptive details about information on a web page. In most cases metadata is located in the source code of the web page, and is not necessarily viewed by the user, but often helps guide the user to that page. While federal agencies are only required to apply metadata to home pages and all major entry points, they are encouraged to include metadata on as many pages as is feasible, within resource constraints.

VA has established a set of standard metadata elements for all web pages. Some pages, such as home pages and major entry points require increased metadata elements. Refer to the 6102 Handbook for specific guidance on specific metadata elements and definitions of home pages and major entry points.

### Title Tags

All web pages should have descriptive titles, and should not be exactly the same throughout an entire website. Title tags are used by many search engines to describe a page, and when a user bookmarks a web page, the content within the Title tag serves as the default description of the page. For this reason, title tags at their best include both the organization (or website) name, and also the title or topic of the web page.

### Section 508 Compatibility

Section 508 of the Rehabilitation Act of 1998 requires government websites to meet certain technical and functional performance criteria to be accessible to users with disabilities. An overview of the requirements is included in Subpart B — Technical Standards, section 1194.22, "Web-based intranet and internet information and applications" (listed as items a- p). For further details, refer to VA Handbook 6102.

Reference: <http://www.access-board.gov/508.htm>

### Script-Disabled Browsing

VA websites should continue to offer comparable information and functionality if the user disables Javascript and other scripts or applets. Alternate content and controls must be available to users when

browsing in script-disabled mode. The HTML NOSCRIPT tag can aid fulfillment of this Section 508 requirement.

Reference: <http://www.access-board.gov/508.htm>, Subpart B — Technical Standards, section 1194.22, "Web-based intranet and internet information and applications" (items l-m).

### **Documents Requiring Plug-Ins**

The most preferable format for presenting web content is HTML. Some web users avoid links requiring plug-ins. Consider converting high traffic documents to HTML. Of course, it is not feasible to convert all documents to HTML. Remember that most veterans do not have Microsoft Office on their computers. Choose formats like PDF that are obtained free of charge and widely installed.

Whenever a link leads to a document requiring a plug-in, make it clear that the user is about to access a different document format through use of an icon or text filename extension.

Provide text links to plug-in manufacturers, but be careful not to promote a product using free banners offered on plug-in manufacturer websites.

In cases where plug-in-based content is embedded in a page (such as with Flash or Quicktime movies), ensure that users without the plug-ins will still be able to view the page, and provide alternative content to meet Section 508 requirements.

### **Browser Compatibility**

VA's Internet web pages should display and perform similarly regardless of which browser is used to visit the page. Regularly testing Internet pages with multiple browser platforms ensures that users will have a consistent experience.

Intranet pages may be dependent on specific application platforms and are not required to meet the same browser requirement as Internet pages.

VA Internet or Intranet web pages may not imply sponsorship of for-profit entities (for example: "Needs Internet Explorer 5," "Best viewed in Netscape 6.0").

## **Interface Attributes**

### **Consistent Navigation**

Navigation elements and methods should be consistent throughout a website so visitors can find their way between website sections. A consistent template also conveys that the visitor remains within the same website.

### **Skip Navigation**

VA websites should permit users of assistive technologies to skip repetitive navigation links. A skip navigation link may be included as the first hyperlink on a web page to allow this functionality. (Note that this link does not necessarily need to be visible for sighted users, it could be linked to a transparent single square pixel at the top of a page.)

Reference: <http://www.access-board.gov/508.htm>, Subpart B -- Technical Standards, § 1194.22, "Web-based intranet and internet information and applications" (item o).

### **Search Engine**

VA websites should include a search engine. It is helpful for the search feature to be available from all pages of the website. One study shows that more than half of users are search-dominant; they use the search feature within a website for navigation.

<http://www.useit.com/alertbox/9707b.html>

### **Site Map**

Most federal agency websites employ a site map, a single page text-based overview of site layout, with an outline or inventory of linked pages. It is helpful for the site map to be readily available from all pages of the website. Ensure the site map is continually maintained so new materials are always listed.

## **Point of Contact**

VA websites should offer contact information for the webmaster or content manager. At the minimum this contact information should include the e-mail address and a phone number as an alternative to electronic communication.

## **Contacting the VA**

VA websites whose organizations participate in the Inquiry Routing and Information System (IRIS) should route electronic inquiries from the public to the IRIS at <https://iris.va.gov>, or provide a link to the IRIS from the Contact Us page of their respective websites. VA organizations using other electronic systems to handle contacts from external sources/persons should ensure that those communications can be tracked, operate on secure platforms, meet all security, privacy and accessibility requirements, and that appropriate permissions have been obtained and are cited as mandated on relevant web pages.

When providing e-mail addresses on the web, link to group addresses rather than individual e-mail addresses. Group e-mail addresses permit staff coverage when an individual is not available, or has a change in job responsibility.

E-mail addresses posted on the web are often the target of spam mail. Utilize spam-blocking code to deter unsolicited e-mail traffic.

## **Linking Practices**

VA websites often include links to other federal government and private websites. VA websites should provide a disclaimer about information received at other non-government sites, and note that privacy policies may differ from the VA website. There are various methods for fulfilling this element; some ideas are provided by the Department of Commerce. (Note that some methods like intermediate pages may be considered disruptive of the web usability experience, or rely upon scripting which may be deactivated by the user; consider options carefully.)

Reference: [http://www.osc.doc.gov/webresources/policies/policy11\\_offsite\\_notifications.htm](http://www.osc.doc.gov/webresources/policies/policy11_offsite_notifications.htm).

## **Link Appearance**

While it is possible technically to add custom colors, mouse hovering actions, and clicking behavior of hyperlinks, it is generally best to allow users to determine their preferred link behavior in their browser software settings. Put more simply, most websites use blue underlined text to represent a hyperlink and purple underlined text for a visited link; departures from this standard can cause confusion.

## **Underlined Text**

Using underlining to highlight important text or titles is a holdover of the typewriter era. Today it is a convention reserved for hyperlinks. Underlining should not be used for non-hyperlinked text.

## **Page Width**

As of 2005, between 22-34 percent of world Internet users view the web at 800 x 600 pixel monitor resolution. This is considered VA's least common denominator for web page sizes. It is permissible for VA web pages to expand to greater widths to accommodate larger monitors. However, all pages must be able to be viewed at the 800 x 600 minimum screen resolution without left-right scrolling.

## **Retain Standard Browser Elements**

Programmers have figured out tricks for affecting the browser interface beyond the main content window: creating mouse trails, adding non-standard colors to interface elements, causing the screen to shake, scrolling messages in the status bar, popup windows without browser controls, non-resizable windows, etc.

Employing such gimmicks can be a nuisance to users, and detract from the mission and official business of the agency. Don't send the message that government funds are being squandered in retaining your webmaster services!

## Branding Attributes

### Template Usage

VA approved templates and branding must be used when creating new web pages. VA websites need to provide a consistent presentation from page to page, to standardize appearance and navigation, and to assure web visitors that they continue to be navigating within the VA website.

Reference: <http://vaww.va.gov/facelift/Resources/facelift.htm#templates>

### Common Graphics

Official VA approved graphics (such as logotypes and seals) must be used. Retain consistent style and don't alter their appearance.

Reference: <http://vaww.va.gov/facelift/Resources/Images/Seals/seals.asp>

### Agency Title

The main VA entry page and all major entry pages must clearly display United States Department of Veterans Affairs or U.S. Department of Veterans Affairs. It is recommended to have the agency title on all pages.

### Image Use

Each image added to a page requires additional bandwidth for a user to download. Images should add meaning to the message of the page, and if not, should be omitted.

Graphics should be optimized for web use. The IMG tag specifying an image should include WIDTH and HEIGHT attributes to improve page rendering. Do not reduce images in size by specifying smaller IMG WIDTH and HEIGHT attributes in the page code. This creates unnecessary traffic as the full size image is still downloaded to the browser. Reduce file size using image editing software to downsample pixels, or use cropping to bring focus to the most important part of the image.

In general, choose JPEG format for photographic images; choose GIF format for images with areas of flat color (such as illustrations), or images containing text to reduce compression artifacts.

When using commercially purchased images, ensure that product licensing will permit the images to be used online without additional fees. Graphics should not be appropriated from private websites without the owner's permission, even if not explicitly copyrighted.

## Usability Attributes

### Consideration of User Computer Specifications

Many people visiting VA websites do not have the latest computer hardware, the most recent browser version, or high-speed connections to the Internet. Carefully consider usage of graphics, sounds, animation, video, or scripting in VA websites. Web developers as a general practice should test their pages with multiple web browsers to ensure compatibility among differing software.

### Physical Limitations

Be considerate of how many clicks of the mouse are required to drill down into information. Be considerate of how much scrolling is required. Forrester Research Inc. of Cambridge, Mass. reports on adult computer users in the United States:

- 1 in 4 has a vision difficulty
- 1 in 4 has a dexterity difficulty
- 1 in 5 has a hearing difficulty

Reference: Government Computer News, "Setting Sites on Section 508," Oct. 25, 2004.

### Motor Control Considerations

Developers need to consider their users' physical movement (such as wrist and arm motion) required to navigate websites. Keep related content on a single page if possible, as scrolling requires less motor control than excessive linking through multiple pages.

## **Legibility of Text**

Choose a font and font size that is large enough to be seen with relative ease, in most cases no less than ten points. Avoid formatting that reduces legibility, such as: use of all caps, use of all bold or all italic for lengthy passages, long paragraphs, and wide columns of text. Avoid colors in text or backgrounds that might interfere with readability of text.

When text is used in a graphic, ensure that size and contrast provide adequate legibility, and include matching text in the image ALT attribute. When using images for text buttons, consider text links as an alternative to save bandwidth and potentially provide better legibility.

Reference: "Homepage Usability," Jakob Nielsen & Marie Tahir, 2002.

## **Frames**

Use frames only in special cases. Frames can be accompanied by several usability issues such as reduced ability for users to bookmark pages, potential search and navigation errors, confusing duplicate sets of scroll bars in the browser interface, and users printing incorrect panes.

If frames must be used, use meaningful frame titles to aid frame identification and navigation for maximum accessibility. To a vision-impaired person using a screen reader, frame titles such as "Top," "Left," or "Right" are less useful than frame titles based on a description of the content, such as: "Navigation," "Main Content," and "Resources."

Reference: <http://www.access-board.gov/508.htm>, Subpart B — Technical Standards, section 1194.22, "Web-based intranet and internet information and applications" (item i).

## **Content Attributes**

### **Reading Level**

Employ special skills for writing for web audiences. Nearly a quarter of the adult population has low literacy skills. Studies related to VA's Veteran Focused Internet Redesign Project recommend a 7th grade reading level for VA websites. Microsoft Word and other programs offer readability-scoring features that can evaluate text complexity by grade level.

### **Date of Content Review**

In addition to the metadata requirements for labeling web pages with date information, there should be a date visible on each page without viewing the source code. Content must be reviewed no less than once per year in all cases, with the exception of documents that are historical or archival for which the dates will never be changed. The date on the web page must show a date no older than one year from the date the page is viewed; however, web pages that contain dynamic content should be reviewed monthly, quarterly or semi-annually depending on the nature of the content.

### **Quality of Information**

In conjunction with listing the content review date on pages, ensure there are regular reviews of website content. Section 515 of the Treasury and General Government Appropriations Act for Fiscal Year 2001 (Public Law 106-554; H.R. 5658) was implemented "for ensuring and maximizing the quality, objectivity, utility, and integrity of information (including statistical information) disseminated by Federal agencies."

### **Avoiding Broken Links**

When a page is renamed or removed from the web, it creates a broken link for other pages or users that previously referenced or bookmarked the file. Use a redirect file to send web traffic to either the new page location, a page in a related topic area, or a general website navigation page.

When naming web pages or documents, select file names that will be appropriate into the future. For instance, naming an annually updated page or document, "fedben2005.html" or "fedben2005.doc" risks future broken links when the 2006 version is released.

Websites should be checked regularly for broken links; tools are available to automate this process.

## **Use Default Document Filenames**

When naming the main home page of a subdirectory, use a filename that supports one of the default document names used by your web server (such as index.htm, default.htm, index.html, default.html, index.cfm, index.asp, etc.). Using default document filenames offers several advantages:

- Website users may type shorter URLs ([www.va.gov](http://www.va.gov) requires half the typing of [www.va.gov/index.htm](http://www.va.gov/index.htm)).
- Users encountering a broken page can go to the top of its subdirectory and find a working page, without knowing the name of that page.
- Server administrators have fewer custom default documents to set up and track.

Check with your server administrator to determine which default document filenames are available for your website.

## **Copyrighted Material**

Use caution in posting text or images obtained from non-VA sources. This material may be protected by copyright and require permission for reuse. This includes articles in journals, newspapers, magazines, and commercial and private websites.

## **Exclusion of Information Compromising to Employees or the Agency**

As a representation of the United States, VA websites can be information sources for hostile entities. Do not include information that could be used to exploit VA facilities, networks, employees, volunteers, etc. Examples of information to exclude online: internal facility floor plans or schematics, aerial photographs, details about computer systems, and personal information, such as family information in an employee bio. This rule applies primarily to VA Internet websites accessible to the public.



## Version Summary

Date	Change	Notes
6/17/08	Date of Content Review	All content, with the exception of historical or archival content, must be reviewed no less than once per year at a minimum. Dynamic content should be reviewed more frequently than once per year at a minimum.